2018-2019
Influenza Surveillance Report
Week 11
Mar. 10 – Mar. 16, 2019

About our flu activity reporting
MSDH relies upon selected sentinel health practitioners across the state to report the percentage of total patient visits consistent with an influenza-like illness (ILI: fever of 100°F or higher AND cough and/or sore throat). Also, providers are supplied with specimen collection kits. Samples are submitted to the Mississippi Public Health Laboratory for influenza PCR testing. Reports are used to estimate the state's ILI rate and the magnitude of the state's influenza activity. Reports represent only the distribution of flu in the state, not an actual count of all flu cases statewide. Information is provisional only and may change depending on additional reporting from sentinel providers.

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State ILI Surveillance

During week 11 (03/10/19-03/16/19), the overall state ILI rate (4.6%) decreased from the previous week (6.1%), but was above this time last year (2.9%).

Figure 1

Total number of patients treated by sentinel providers in the last three weeks. Table 1

<table>
<thead>
<tr>
<th>2018-2019 Influenza Season</th>
<th>CDC Week</th>
<th>Week Ending</th>
<th>Number of reports received from Sentinel Providers</th>
<th>Total patients</th>
<th>ILI symptoms</th>
<th>ILI Rate (%)</th>
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<tbody>
<tr>
<td></td>
<td>11</td>
<td>Mar. 16</td>
<td>162</td>
<td>16257</td>
<td>744</td>
<td>4.6</td>
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<tr>
<td></td>
<td>10</td>
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<td>162</td>
<td>15779</td>
<td>965</td>
<td>6.1</td>
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<tr>
<td></td>
<td>09</td>
<td>Mar. 2</td>
<td>163</td>
<td>17962</td>
<td>1178</td>
<td>6.6</td>
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During week 11, one district (8) had an increase in ILI activity, while six districts had a decrease. Two districts (2 and 3) remained about the same. Information is provisional only and may change depending on additional reporting from sentinel providers. Table 2

<table>
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<tr>
<th>MSDH District ILI Rates (%) 2018-2019</th>
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<td>District</td>
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<td>State</td>
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<td>VII</td>
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<td>VIII</td>
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<tr>
<td>IX</td>
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</table>
Overall, the percentage of reported ILI cases has been highest among those in the 0-4 and 5-24 years of age groups. During week 11, the percentage of ILI cases increased in the 0-4 years of age group, but decreased in the 5-24 years of age group. The percentage of ILI cases in the other age groups remained constant when compared to the previous week. | Figure 2

The 2018-19 state ILI rate was above the national, Region 4, and Mississippi baselines during week 11. | Figure 3
Syndromic ILI Surveillance

The Mississippi State Department of Health also collects influenza syndromic surveillance data through the CDC BioSense Platform. This data is comprised of chief complaints and diagnosis codes and is submitted electronically by participating hospitals and clinics throughout the state in near real-time. The BioSense data is an additional tool to monitor influenza activity in Mississippi.

The percentage of patients with a chief complaint or diagnosis of influenza-like illness during week 11 decreased from the previous week, as did the statewide ILI rate. The BioSense ILI rate appears to be following the same trend as the statewide ILI rate. | Figure 5
Influenza Outbreaks

Outbreaks are reportable in Mississippi as a Class 1A event and must be reported by telephone within 24 hours of first knowledge or suspicion to the Mississippi State Department of Health. For more information on reportable diseases and conditions, please refer to the MSDH List of Reportable Diseases and Conditions.

Between week 40 (week ending October 6th) and week 11 (week ending March 16th), 60 outbreaks were reported to MSDH. MSDH investigates all reported outbreaks, and of the 60 reported outbreaks, complete information was available for 55 of them. Three (5%) of the outbreaks were attributed to influenza A/H1, 41 (75%) were attributed to influenza A/H3, six (11%) were due to an influenza A virus, unknown subtype, and five (9%) were due to an unknown influenza type. | Figure 6

The influenza outbreaks occurred in the following counties: Attala (1), Bolivar (1), Covington (1), DeSoto (1), Forrest (3), Franklin (1), Greene (1), Hancock (1), Harrison (1), Hinds (3), Jackson (2), Jones (4), Kemper (1), Lafayette (2), Lauderdale (1), Lincoln (3), Madison (2), Marion (3), Monroe (2), Neshoba (2), Newton (1), Oktibbeha (1), Pearl River (2), Perry (1), Pike (2), Pontotoc (1), Rankin (3), Smith (2), Stone (1), Tallahatchie (1), Tate (2), Tishomingo (1), Tunica (1), Union (1), Warren (1), Webster (1), and Yazoo (2).

For additional information on infection control measures in health care facilities and managing influenza outbreaks in long-term care facilities, please refer to the CDC's webpages: https://www.cdc.gov/flu/professionals/infectioncontrol/index.htm and https://www.cdc.gov/flu/professionals/infectioncontrol/ltc-facility-guidance.htm, respectively.
Flu Testing Reports

Since week 40 (week ending October 6th), 270 laboratory confirmed influenza samples have been identified by the MSDH Public Health Laboratory. Seventeen (6%) were identified as influenza A/H1, 252 (93%) were identified as influenza A/H3, and one (0.4%) was identified as an influenza B/Yamagata. | Figure 7

The influenza cases were identified from the following counties: Attala (24), Bolivar (2), Calhoun (1), Carroll (1), Choctaw (2), Clarke (1), Copiah (2), Covington (4), DeSoto (1), Forrest (14), Franklin (2), George (1), Greene (2), Hancock (6), Harrison (26), Hinds (25), Holmes (2), Jackson (7), Jones (8), Kemper (2), Lafayette (3), Lamar (1), Lauderdale (3), Leake (13), Leflore (2), Lincoln (4), Lowndes (1), Madison (5), Marion (9), Marshall (4), Monroe (3), Neshoba (13), Newton (4), Oktibbeha (6), Pearl River (9), Pike (9), Pontotoc (1), Rankin (22), Scott (1), Smith (2), Tallahatchie (1), Tate (3), Tishomingo (2), Tunica (2), Union (2), Winston (7), and Yazoo (3). The county of residence for two of the cases was unknown.

National and Mississippi Pediatric Mortality Surveillance

Nationally, eight influenza-associated pediatric deaths were reported to CDC during week 11. Two deaths were associated with an influenza A(H1N1)pdm09 virus and occurred during week 10 (week ending March 9, 2019). Two deaths were associated with an influenza A(H3) virus and occurred during weeks 4 and 8 (weeks ending January 26 and February 23, 2019, respectively). Three deaths were associated with an influenza A virus for which no subtyping was performed and occurred during weeks 10 and 11 (weeks ending March 9 and March 16, 2019, respectively). One death was associated with an influenza B virus and occurred during week 9 (week ending March 2, 2019). Seventy-six influenza-associated pediatric deaths have been reported to CDC for the 2018-2019 season. | Figure 8

Mississippi has had one influenza-associated pediatric death reported during this influenza season.
Of the 76 influenza-associated pediatric deaths reported nationally during the 2018-2019 season, 71 (93%) have been attributed to influenza A viruses, four (5%) to influenza B viruses, and one (1%) to an influenza virus for which type was not determined. | Figure 9

For additional information on influenza-associated pediatric deaths, please refer to the CDC's FluView.
National ILI Surveillance

During week 11, the Mississippi (4.6%), national (4.2%), and Region 4 (3.5%) ILI rates decreased, but all were above their respective baselines. | Figure 10
During week 11, influenza activity remained elevated in the United States.\(^1\) | *Figure 11*

![FLUView](https://www.cdc.gov/flu/weekly/fluactivitysurv.htm)

*This map indicates geographic spread and does not measure the severity of influenza activity.*

\(^1\)For up-to-date information on flu activity nationwide, please refer to the CDC’s website: [http://www.cdc.gov/flu/weekly/fluactivitysurv.htm](http://www.cdc.gov/flu/weekly/fluactivitysurv.htm).

Mississippi reported “Widespread” for the influenza activity during week 11. | *Table 3*

<table>
<thead>
<tr>
<th>Level of Flu Activity</th>
<th>Definition</th>
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<tr>
<td>No Activity</td>
<td>Overall clinical activity remains low and there are no lab confirmed cases.</td>
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<tr>
<td>Sporadic</td>
<td>Isolated cases of lab confirmed influenza in the state; ILI activity is not increased OR A lab-confirmed outbreak in a single institution in the state; ILI activity is not increased.</td>
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<tr>
<td>Local</td>
<td>Increased ILI within a single region AND recent (within the past 3 weeks) laboratory evidence of influenza in that region. ILI activity in other regions is not increased OR two of more institutional outbreaks (ILI or lab confirmed) within a single region AND recent (within the past 3 weeks) lab confirmed influenza in that region. Other regions do not have increased ILI and virus activity is no greater than sporadic in those regions</td>
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<tr>
<td>Regional</td>
<td>Increased ILI in at least 2 regions but fewer than half of the regions AND recent (within the past 3 weeks) lab confirmed influenza in the affected regions OR Institutional outbreaks (ILI or lab confirmed) in at least 2 regions but fewer than half of the regions AND recent lab confirmed influenza in the affected regions.</td>
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<tr>
<td>Widespread</td>
<td>Increased ILI and/or institutional outbreaks (ILI or lab confirmed) in at least half of the regions AND recent (within the past 3 weeks) lab confirmed influenza in the state.</td>
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### Additional influenza information:

<table>
<thead>
<tr>
<th>Source</th>
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<td>MSDH Flu and Pneumonia</td>
<td><a href="http://msdh.ms.gov/msdhsite/_static/14,0,199.html">http://msdh.ms.gov/msdhsite/_static/14,0,199.html</a></td>
</tr>
</tbody>
</table>
Appendix

Figure 1

Statewide ILI Data, Week 11 ending Mar. 16, 2019
Current Season compared to Previous Season

Week Ending

% of ILI Patients

2018-2019
2017-2018
Figure 2

Percentage of ILI Cases by Age Group, Mississippi, August 26, 2018 - Mar. 16, 2019
(CDC Week 35, 2018 - Week 11, 2019)

![Graph showing percentage of ILI cases by age group from August 26, 2018 to March 16, 2019.](image)
Figure 3

Mississippi ILI Rates, 2018-2019 and Previous Influenza Seasons

*Region 4 consists of AL, FL, GA, KY, MS, NC, SC, and TN.
Figure 4

State ILI Rates 2014-2019 (YTD)
Figure 5

Comparison of the BioSense and Statewide ILI Rates, Mississippi
August 26, 2018 - Mar. 16, 2019
(CDC Week 35, 2018 - Week 11, 2019)

% of ILI Patients

Week Ending

Sep 1, Sep 15, Sep 29, Oct 13, Oct 27, Nov 10, Nov 24, Dec 8, Dec 22, Jan 5, Jan 19, Feb 2, Feb 16, Mar 2, Mar 16
Figure 6

Number of Reported Influenza Outbreaks by Influenza Type and Subtype by Onset Week, Mississippi, 2018-2019 Flu Season
(N = 55)

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### Figure 7

**Comparison of Statewide ILI Rate to Positive Influenza Isolates by Type and Subtype, Mississippi**

**Sept. 30, 2018 - May 18, 2019**

*(CDC Weeks 40, 2018 - 20, 2019)*

The figure shows the comparison of statewide ILI rate to positive influenza isolates by type and subtype in Mississippi from September 30, 2018, to May 18, 2019. The data is categorized by CDC weeks 40, 2018 to 20, 2019. Each bar represents the number of positive influenza isolates for different types, while the line graph on the right indicates the percent of patients presenting with ILI symptoms. The chart provides a visual representation of the influenza activity and its impact on the state.
Figure 8

Number of Influenza-Associated Pediatric Deaths by Week of Death and Influenza Type, Nationwide, Sept. 30, 2018 - March 16, 2019 (CDC Week 40, 2018 - Week 11, 2019)
Figure 9

Percentage of Influenza-Associated Pediatric Deaths by Influenza Type, Nationwide, Sept. 30, 2018 - March 16, 2019 (CDC Week 40, 2018 - Week 11, 2019) N = 76

Flu A  Flu B  Flu A/B Not Distinguished  Flu A/B

93%  5%
Figure 10

Comparison of Nationwide and Region 4* ILI Rates to Mississippi ILI Rates
Weeks 40-20 | 2018-2019 Flu Season

*Region 4 consists of AL, FL, GA, KY, MS, NC, SC, and TN.
Figure 11

A Weekly Influenza Surveillance Report Prepared by the Influenza Division
Weekly Influenza Activity Estimates Reported by State and Territorial Epidemiologists*

Week Ending Mar 16, 2019 - Week 11

Influenza Activity Estimates
- No Activity
- Sporadic
- Local Activity
- Regional
- Widespread
- No Report

*This map indicates geographic spread and does not measure the severity of influenza activity.